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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,629	01/29/2007	Takashi Sato	YH0025-US1	5764
27788 7590 11/18/2008 Tyco Electronics Corporation 309 Constitution Drive Mail Stop R34/2A Menlo Park, CA 94025				
EXAMINER LE, TUNG X				
ART UNIT 2821		PAPER NUMBER		
MAIL DATE 11/18/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/576,629

**Applicant(s)**

SATO ET AL.

**Examiner**

TUNG X. LE

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the Applicants' communication filed on January 29, 2007. In virtue of this communication, claims 1-8 are currently presented in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

2. Figures 5-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al. (U.S. Patent No. 4,801,784).

With respect to claim 1, Jensen discloses in figures 12-13 a PTC element comprising a sheet-like body [6] made of a polymer PTC material (see column 13, lines 15-20 and column 16, lines 38-46), and a first and second electrodes (having a plurality of electrodes [8] disposed upper and lower sides of the PTC device) formed on a surface or surfaces of the sheet-like body (see figure 12), characterized in that the PTC element is provided with a space [22] which at least partially traverses the sheet-like body in its thickness direction (see figure 10 and 12-14; and column 12, lines 34-42).

With respect to claim 2, Jensen discloses that wherein the space is at least partially defined by an inner wall (having inner walls disposed inside the hole [22]) of a through hole (see figure 12 at the hole [22]) which extends through the sheet-like body (see figure 12).

With respect to claim 3, Jensen discloses that wherein the first and second electrodes are formed distant from each other on the same sheet surface of the sheet-like body (figure 12 shows that two electrodes [8] on the top surface of the sheet-like body spaced apart from each other via the hole [22]).

With respect to claim 4, Jensen discloses that wherein the first and second electrodes are respectively formed on a pair of opposed surfaces of the sheet-like body, so as not to overlap each other as they are seen by being projected in the thickness direction of the sheet-like body (figure 12 shows a pair electrode [8] on the top surface

of the sheet-like body and a pair electrode [8] being on the bottom of the sheet-like body with a opposed direction and not overlapping).

With respect to claim 5, Jensen discloses that wherein the space is located within a region surrounded by an outer periphery of the electrode as it is seen by being projected in the thickness direction of the sheet-like body (see figures 12-13).

With respect to claim 6, Jensen discloses that the space penetrates at least one of the electrodes (see figures 12-13).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zcardo et al. (U.S. Patent No. 5,814,949) in view of Jensen et al. (U.S. Patent No. 4,801,784).

With respect to claim 7, Zcardo discloses in figure 1 a starter circuit for a fluorescent lamp [2] comprising a PTC element [22] (see column 5, lines 49-52), except for specifying that the PTC element is a polymer PTC element.

Jensen discloses a polymer PTC element (see figures 12-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the PTC element of Zcardo by replacing a polymer PTC element as taught by Jensen in order to protect an over voltage or power and also

improve a heating level of the lighting circuit since such this configuration of a polymer PTC element for the state purpose has been well known in the art as evidenced by the teaching of Jensen (column 13, lines 10-48).

With respect to claim 8, the combination of Zanardo and Jensen disclose that, in figures 12-13 of Jensen, wherein the PTC element comprises a sheet-like body [6] made of a polymer PTC material (see column 13, lines 15-20 and column 16, lines 38-46), and a first and second electrodes (having a plurality of electrodes [8] disposed upper and lower sides of the PTC device) formed on a surface or surfaces of the sheet-like body (see figure 12), characterized in that the PTC element is provided with a space [22] which at least partially traverses the sheet-like body in its thickness direction (see figure 10 and 12-14; and column 12, lines 34-42 of Jensen).

***Citation of Relevant Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Chandler et al. (U.S. Publication No. 2005/0200447 A1) discloses a surface mountable PPTC device with integral weld plate.

Prior art Menna (U.S. Publication No. 2004/0041524 A1) discloses a fluorescent lamp circuit.

Prior art Kojima et al. (U.S. Patent No. 6,782,604 B2) discloses a method of manufacturing a chip PTC thermistor.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUNG X. LE whose telephone number is (571)272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TXL 11/09/2008

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
November 10, 2008